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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------|------------------|
| 10/781,171 | 02/18/2004 | Anders Bjorling | P04,0014 | 1811 |
| 26574 | 7590 | 05/10/2006 | | |
| SCHIFF HARDIN, LLP PATENT DEPARTMENT 6600 SEARS TOWER CHICAGO, IL 60606-6473 | | | EXAMINER BERTRAM, ERIC D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3766 | |

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/781,171 | BJORLING ET AL. | |
| | Examiner | Art Unit | |
| | Eric D. Bertram | 3766 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7-15, 17, 19-28, 30 and 32-40 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 16, 18, 29 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/15/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 7/15/2004 was filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

3. Claims 3, 12, 15, 24 and 37 are objected to because of the following informalities: there appears to be a spelling error in line 3 of claims 3 and 15 and in line 6 of claims 12, 24 and 37. In claims 3 and 15, the Examiner believes "second passing circuit" should be --second pacing circuit--, and is being examined as such. Furthermore, in claims 12, 24 and 37, the Examiner believes "for that a signal" should be --or that a signal--, and is being examined as such. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 39 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 39 and 40 recite the limitation "said third

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sensing electrode" in lines 2 and 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-3, 5, 7-15, 17, 19-28, 30, 32-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Weinberg et al. (US 2003/0208238, hereinafter Weinberg).

Weinberg discloses an implantable heart stimulating device including a first pacing circuit comprising ventricular pulse generator 72, electrode configuration switch 74 and VL tip terminal 44 that is connectable to a first pacing electrode 26, which interacts with the left ventricle and allows the first pacing circuit to deliver pacing pulses to the left ventricle. Weinberg also discloses a first sensing circuit comprising ventricular sensing circuit 84, electrode configuration switch 74 and VL tip terminal 44 that is connectable to a first pacing electrode 26, which interacts with the left ventricle and allows the first sensing circuit to sense the left ventricle. There is also a second pacing circuit comprising ventricular pulse generator 72, electrode configuration switch 74 and VR tip terminal 52 that is connectable to a second pacing electrode 32, which interacts with the right ventricle and allows the second pacing circuit to deliver pacing pulses to the right

ventricle. In addition, Weinberg describes a second sensing circuit comprising ventricular sensing circuit 84, electrode configuration switch 74 and VR tip terminal 52 that is connectable to a second pacing electrode 32, which interacts with the right ventricle and allows the second sensing circuit to sense the right ventricle (see figure 2 and para. 0025-0027).

8. Weinberg further discloses a control circuit 60 that operates with time cycles that correspond to normal heart cycles, including AV delays, AA delays, and refractory periods (para. 0033). The control circuit operates to cause the first and second sensing circuits to sense the right and left ventricles to determine if there is a change in the inter-ventricular delay (first time delay) on a cycle-to-cycle basis. If there is a sudden change, then the first and second pacing circuits deliver pacing pulses to the left and right ventricles, which have a first time delay between them of 50-100 milliseconds, and the pulses return the ventricles to inter-ventricular synchrony (para. 0061 and 0062).

9. The control circuit also operates with a criterion that characterizes sensed signals from the first and second sensing circuits as signals representative of PVC (premature ventricular contraction). The control circuit then operates with a predetermined pacing rule that applies a pulse from the second pacing circuit to the right ventricle with a second time delay of 10-50 milliseconds if the PVC was sensed by the first sensing circuit in the left ventricle, or else applies a pulse from the first pacing circuit to the left ventricle with a third time delay of 10-50 milliseconds if the PVC was sensed by the second sensing circuit in the right ventricle (see figure 3 and para. 0056-0058).

10. Regarding claims 10, 22 and 35, it is the Examiner's position that the low end of the range for the third time delay, 10 milliseconds, is substantially equal to zero.

11. Regarding claims 11, 12, 23, 24, 36 and 37, Weinberg discloses a circuit arrangement that can sense and pace the atria of the heart (para. 0025 and 0026). Weinberg also does not disclose that the atria are sensed or paced while the control circuit is employing the method determines if sensed signals meet the PVC criterion.

12. Regarding claim 38, Weinberg discloses that the second time delay is chosen to restore inter-ventricular synchrony, and hence reduce an arrhythmia risk associated with the heart (para. 0056).

13. Regarding claims 39 and 40, Weinberg discloses that this method and device is useful for treating living subjects suffering from the results of an ischemia and blocked arteries, which don not allow the heart to pump enough blood to other organs in the body (i.e. congestive heart failure) (para. 0005).

Allowable Subject Matter

14. Claims 4, 6, 16, 18, 29 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. All of the claims disclose inhibiting delivery of a pacing pulse to a second ventricle if a PVC was detected in the second ventricle during a time delay after PVC was also detected in a first ventricle. This, in addition with the other elements of the base claims, is not taught or suggested by the prior art of record.


Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maarse (US 6,128,535) discloses a system and method for pacing and sensing in different ventricles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric D. Bertram whose telephone number is 571-272-3446. The examiner can normally be reached on Monday-Thursday and every other Friday from 9-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on 571-272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Robert E. Pezzuto
Supervisory Patent Examiner
Art Unit 3766

Eric D. Bertram
Examiner
Art Unit 3766

EDB